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ON THE NUMBER OF ARTICLES OF PSYCHOLOGICAL INTEREST PUBLISHED IN THE DIFFERENT LANGUAGES

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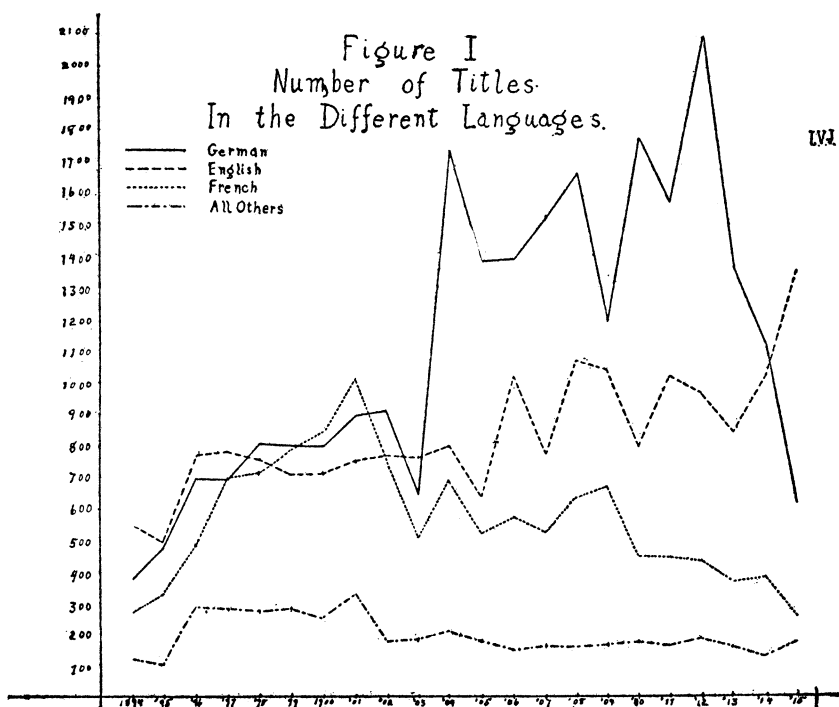
The *Psychological Index*, which has appeared annually for the past twenty-two years, is a bibliographical collection of publications which have appeared in psychology and cognate fields. There are included not only titles in the field of psychology proper, both theoretical and experimental, but also papers from related fields if they contain materials of psychological interest. Such fields as philosophy, education, anthropology, ethics, psychiatry, physiology and sociology are included. This compilation of titles is by far the most complete to be found. The editors have been in close coöperation with the *Bibliographie* published by the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane* for the collection of German titles, with the *Année Psychologique* for the French titles, and with certain French and English individuals. This coöperation has been effective since the third year of publication with the exception of certain and infrequent lapses.

Hence we may believe that practically all of the articles in the field of psychology, or those of at least considerable psychological interest, may be found in these compilations. And it may be assumed that the total out-put listed from any given country may be accepted as an adequate measurement of the degree of psychological interest prevailing in that country. We do not wish to imply that the relative significance of each country's contribution to psychology can be determined from a mere perusal of the *Index*; this is obviously a matter in which total number of publications may play but a small part, but it seems possible that an indication of interest in psychological topics may be furnished by an appeal to mere number of papers published.

Several difficulties at once present themselves. If one is to determine the number of titles produced by each country in every year, one must determine the place of residence of every author. The solution of our problem did not seem to warrant such a great expenditure of labor, although such a determination would obviously have been the more correct method. To make such a determination, however, each author

must have been investigated because the language of the publication or the place of publication is by no means always an indication of the place of residence of the author.

The alternative scheme of classifying the titles with regard to the language in which they were written was adopted. Several drawbacks are apparent. For example, all German, Austrian and some Swiss titles had to be included under the general caption of German. French quite as obviously included the French articles proper, as well as Belgian, Swiss, some Italian and a few Russian. Italian was, of course, relatively pure. But the great trouble with this method of classification was that English and American titles could not be differentiated. Such a differentiation was not possible without investigating the place of residence of each author because the matter is complicated by the fact that a relatively large number of papers by English authors appear in the American journals, and also many of the large publishing firms bring out their books simultaneously in both Great Britain and



America. In our enumeration we found very few titles in any language except English, German, French and Italian. Hence we included all of the others under a single caption and in this group will be found titles appearing in the Scandinavian languages, Spanish, Dutch, Russian, Hungarian, Polish, Greek and Japanese.

TABLE I
NUMBER OF TITLES IN THE DIFFERENT LANGUAGES

Date	German	English	French	Italian	All Others	Total
1894.....	375	550	265	82	40	1312
1895.....	474	489	325	80	26	1394
1896.....	695	770	492	182	95	2234
1897.....	694	785	704	221	61	2465
1898.....	816	759	713	209	61	2558
1899.....	812	714	785	223	50	2584
1900.....	808	718	851	209	41	2627
1901.....	897	744	1015	278	51	2985
1902.....	923	771	759	147	28	2628
1903.....	661	767	513	164	17	2122
1904.....	1735	804	692	202	12	3445
1905.....	1380	651	523	160	13	2727
1906.....	1389	1026	584	140	6	3145
1907.....	1523	773	541	144	14	2995
1908.....	1664	1069	643	126	30	3532
1909.....	1195	1037	673	131	31	3067
1910.....	1767	800	450	151	18	3186
1911.....	1574	1022	445	116	45	3202
1912.....	2102	969	435	159	27	3692
1913.....	1364	853	363	123	37	2740
1914.....	1120	1016	383	88	35	2642
1915.....	619	1589	254	125	47	2634
Totals, 1894-1915....	24587	18676	12408	3460	785	59916

The results of our counting will be found in Table I. In the first column will be found in order the dates of the twenty-two years covering the period of publication of the *Psychological Index* (1894-1915). In the next column will be found opposite each date the number of German titles which have appeared during that year. In the successive columns will be found opposite each date the number of titles which have appeared during the year in English, in French, in Italian, and in all of the other languages. Finally, in the last column will be found the total number of titles which appeared in all languages for each year. The bottom row of this table contains the total number of titles published in each language

during the entire period of twenty-two years. Figure I represents the same results thrown into the form of curves. Along the abscissa, the different years of publication have been laid off in order; while the number of titles have been erected as ordinates. Only four curves are represented,—those for the German, English and French titles in separate curves. For the sake of simplicity, we have here grouped the Italian titles with our group of 'All Others.' Hence the fourth curve represents the combined results of the fifth and sixth columns of our tables.

An examination of these curves and of the values which they represent proves to be of considerable interest. Let us first consider the general form of each curve separately and then turn to a discussion of the relations between the different curves.

The curve for the number of German titles starts with low values (375 in 1894); but after two years there is a very marked rise (695 in 1896). This marked rise is probably due to the fact that this year marks the beginning of the coöperation between the *Index* and the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. We believe that the German periodicals and publications were not adequately represented during the first two years of the publication of the *Index*. But now, with the coöperation with the *Zeitschrift*, we may expect an adequate representation of the German titles inasmuch as they are collected in the home country. This coeditorship of the *Zeitschrift* and the *Index* continued for six years, and during this time the curve shows a relatively rapid and fairly steady increase in the number of titles,—reaching a temporary maximum of 897 titles in 1901. During the next two years there was apparently a temporary lapse in the relations of the *Index* and the *Zeitschrift*. Probably due to the inadequacy of the gathering of the German material during these years, the number of titles drops in 1903 to 661. It seems reasonable to suppose that this is the cause inasmuch as in the next year (1904) when relations with the *Zeitschrift* are resumed, the number of titles in the German language suddenly rises to 1735. It is very probable that this maximum, which was never surpassed until 1910 and has only been surpassed twice (1910 and 1912), is a false maximum. By this we mean that there are included in this year titles which actually should have appeared in the *Index* of the previous year. Also it is possible that this year may have been one of great production at the expense of the years before and after,—that is, many books may have appeared

early in 1904 which should have appeared late in 1903 but were held up for some reason, and similarly, many books may have appeared late in 1904 which, in the ordinary course of events, should have been brought out early in 1905. We can certainly say that the German production of 1903 and 1905 was considerably less than that for 1904.

For the eight years, 1904 to 1911 inclusive, the German production remained fairly steadily close to this high maximum. The one obvious exception is the drop in 1909 to 1195 titles, for which we are unable to give any explanation. In 1912 the number of German titles of psychological interest reaches the surprising maximum of 2102,—a number greater by 350 than has ever been attained by any other language for any year. Inasmuch as the number of German titles for 1911 and 1913 are each considerably smaller than that for 1912, we believe that this exceedingly large number is again a false maximum. From 1912 on, the curve for the number of German titles takes a surprisingly marked and rapid drop. Starting in 1912 with 2102 titles published in the German language, we find 1364 in 1913, 1120 in 1914, and only 619 in 1915. The rapid fall of the last two years is undoubtedly due to the effects of the present war. During this last year (1915) the Editor of the *Index* himself expresses the doubt that he has been able to collect all of the German titles; but during 1914 the *Index* was still brought out in coöperation with the *Zeitschrift* and so the list for this year should be relatively complete. And for this year just a little more than half as many titles are listed as were recorded two years previously.

Turning now to a consideration of the curve for the number of English titles, we find that it is very different as regards general form. It will be remembered that this curve includes both English and American productions. This curve also starts with low values for the first two years and then takes a rather rapid rise. Inasmuch as all of the four curves take a rapid rise for the third year, we believe that we may consider that this is due to greater completeness in the work of the bibliographers after the first two years of publication. For a period of nine years (1896 to 1904 inclusive) the curve of the number of titles in the English language remains surprisingly constant between 700 and 800 titles. The next year (1905) the number drops to 651 items. From now on the curve has an irregular but slowly ascending course for the ten years (1905 to 1914 inclusive),—reaching a maximum, for this period, of 1069 titles in 1908. For last year (1915) the curve has taken a remarkable upward course, reaching the

surprising maximum of 1589 titles. This is over 500 more titles than has ever appeared before in English for any one year; and this total has only four times been exceeded by the German curve. This is probably *not* a false maximum because the number of English titles for 1914 is well above the average for the last few years. We believe that this marked increase is due largely to the greater out-put of psychological literature in America. We have carefully separated the American from the British titles for 1915 with the following result. Out of the total of 1589 titles appearing in the English language for that year 1063 or 66.90 per cent were of American origin, while only 526 or 33.10 per cent were of British origin.

The curve for the French titles has again a very different form from either of those which we have discussed. It will be remembered that most of the Belgian and some Swiss titles are included under this heading. This curve starts also with low values and for the first eight years it shows a perfectly steady, although by no means regular, increase. In 1894 this curve starts with a value of 265 titles and by 1901 has the surprising total of 1015 items. For the next two years (1902 and 1903) the curve shows a marked drop,—reaching a temporary minimum in the latter year of 513 titles. For the next six years (1904 to 1909 inclusive) the curve is relatively irregular but remains approximately on a level of 600 titles. The last six years (1910 to 1915 inclusive) have seen a tremendous and almost regular decrease in the number of French titles,—reaching an absolute minimum in 1915 of 254 titles, or 11 less than were recorded in the first publication of the *Index* twenty-two years before. The decrease is very marked for the last year and is undoubtedly due to the effect of the war and the utter suspension of all scientific work in Belgium and the north of France. The editor of the *Index* for 1915 speaks of the coöperation of the French correspondents, so we may believe that the list of French titles is relatively complete.

The curve of the number of titles for all languages other than German, English and French need not detain us for very long. This curve is composed largely of Italian titles as a glance at Table I will indicate, although from time to time a number of Russian and recently a number of Scandinavian articles has swelled the totals in the column with the caption 'All Others.' This curve has a course almost similar to that for the French titles except that the variations are not so marked. It starts with low values and more or less steadily

increases to a maximum of 329 items in 1901, in which total the large number of Italian titles for that year is chiefly responsible. The next year shows a considerable drop, and from then on the curve is surprisingly regular although it shows a very slight tendency to decrease. There does not seem to be any apparent effect of the war on the number of titles for the last two years.

Let us now consider the relative courses of the various curves. That for the Italian and 'other' titles is so much lower than the other three curves that we may eliminate it from our discussion. Our discussion of the relative heights of the three curves will therefore be based on a consideration only of those for the German, English and French titles. For the first ten years of the period covered by the publication of the *Index*, the curves representing the number of titles listed yearly in the three languages under consideration, are of approximately the same height and are of the same general form. The curves cross one another frequently. Five times during this period of ten years there were a greater number of English titles than of either German or French; twice English stood in second place and three times in third. During this period German stood three times in first place, six times in second and once in third. French stood twice in first place, twice in second place, and six times in third place.

For the period covered by the next ten years (1904 to 1913 inclusive) the relations are very much changed. During this period the curves draw gradually farther and farther apart. In 1904 the number of German titles had an enormous increase,—a fact which we believe, as pointed out above, is due to the closer coöperation of the *Index* with the *Zeitschrift* on the one hand, and on the other, to the fact that the total for that year reaches a false maximum. But the German curve retains its relatively high values and is only once (1909) even approximately approached by the curve for the English titles. The French curve for this period takes an exactly opposite course and decreases considerably and fairly regularly during these years. The curve for the English titles takes the middle course,—it is irregular but has a general tendency to increase, although never markedly.

For the period of the last two years (1914 and 1915), however,—the period covered by the present war,—the relations are very different. The curve for the French titles still shows a marked tendency to decrease. The curve for the German titles also shows a marked downward tendency, which for this last year may possibly be due in part to the difficulty

of obtaining the titles from abroad. The English curve, on the other hand, shows a marked upward tendency, especially marked in the last year. Hence, in 1914 the German and English curves had come very close together,—the Germans holding the supremacy, but only by a little more than 100 titles. For the last year, however, these two curves have crossed very markedly and in the 1915 number of the *Index*, the English titles held the supremacy over the German by nearly 900 items.

TABLE II
PERCENTAGE OF TITLES IN THE DIFFERENT LANGUAGES

Date	German	English	French	Italian	All Others
1894.....	28.58	41.92	20.20	6.25	3.05
1895.....	34.00	35.08	23.31	5.74	1.87
1896.....	31.11	34.47	22.02	8.15	4.25
1897.....	28.15	31.85	28.56	8.97	2.47
1898.....	31.90	29.67	27.87	8.17	2.39
1899.....	31.42	27.63	30.38	8.63	1.94
1900.....	30.75	27.33	32.40	7.96	1.56
1901.....	30.05	24.92	34.00	9.31	1.71
1902.....	35.12	29.34	28.88	5.59	1.07
1903.....	31.15	36.15	24.18	7.73	0.79
1904.....	50.45	23.34	20.09	5.86	0.26
1905.....	50.61	23.87	19.18	5.87	0.47
1906.....	44.17	32.62	18.57	4.45	0.18
1907.....	50.82	25.79	18.05	4.87	0.46
1908.....	47.11	30.26	18.20	3.57	0.86
1909.....	38.96	33.81	21.94	4.27	1.01
1910.....	55.46	25.11	14.12	4.74	0.57
1911.....	49.16	31.92	13.90	3.62	1.40
1912.....	56.93	26.24	11.78	4.31	0.73
1913.....	49.78	31.13	13.25	4.49	1.35
1914.....	42.39	38.46	14.50	3.33	1.33
1915.....	23.50	60.33	9.64	4.75	1.78
Average, 1894-1915.....	39.62	31.87	21.14	5.94	1.43

It is of interest, we believe, to consider the percentage of titles published each year in the different languages. These results will be found in Table II which is compiled under captions similar to those employed in our first table. The last row of this table contains the average percentages for each language of the entire period covered by the publication of the *Index*. This percentage table is of interest because the *total* number of titles listed varies from year to year and so the relative proportions are perhaps more obvious than

those obtained from the simple distribution table. Again we may disregard in our discussion all consideration of the percentages of Italian and 'All Other' titles because they never seriously affect the general relations for the other three languages. For the period of the first ten years, however (1894 to 1903 inclusive), these titles had to be reckoned with, as they were frequently more than 10 per cent of the entire number listed.

For the period of the first ten years we find that the German, English and French languages each accounts for about 30 per cent of the total listing. Then from 1904 to 1913,—the period of German supremacy,—the German titles account for nearly 50 per cent of the items. In the year 1912 the German percentage rose to 56.93. During this period of ten years the average percentage of the German titles was 49.34. During the same period the percentage of English titles remained fairly constant,—more or less in the neighborhood of 30 per cent. The percentage of French titles for this period dropped rather steadily, being on the average a little less than 17 per cent.

When one adds the percentages for the German and English titles for the last twelve years one is astounded by the supremacy of the two languages. And we believe that number of titles in any language is a rough indication of the interest in this field by the peoples writing in that language. The average combined percentages of the German and English titles for this period (1904 to 1915 inclusive) amounts to 78.44 per cent. It is difficult to realize that nearly four of every five titles of psychological interest that have appeared in the last twelve years, has been written in either the English or German languages. The combined percentage for any year during this period has never fallen below 72.77 (1909). The highest combined percentage occurred last year (1915) when 83.83 was reached, but this was very closely approximated in 1912 with a combined percentage of 83.17.

For the sake of completeness let us compute certain totals and general averages for the entire period of twenty-two years covering the publication of the *Psychological Index*. During this entire period there are listed in all languages 59,916 titles which are of psychological interest. Of these 24,587 or 39.62 per cent were written in the German language. In all some 18,676 English titles appeared, which account for 31.87 per cent of the total. French titles number 12,408 or 21.14 per cent. The number of Italian titles for this period is very much smaller than any of the other three languages men-

tioned, being 3,460 or 5.94 per cent. All of the other languages except these four only account for 785 titles or 1.43 per cent of the total number during the period of twenty-two years.

We believe that this study, crude as it may be, points definitely to the ascendancy of psychological interest among the English-speaking peoples. Even though the small number of German titles for the last year be attributed to the difficulty of importing materials, still these are all that the American student can utilize at the present time. Also the absolute number of titles written in English has steadily increased during the years of the publication of the *Index*, and this increase has been very marked indeed during the last year when the number of titles for all other languages decreased very markedly. There is also a very noticeable decline of interest in matters psychological among the French-speaking peoples. This is true from an absolute standpoint and even more markedly from the relative point of view. Perhaps the most striking point brought out by this study is the extreme necessity for the student of psychology,—no matter of what nationality he may be,—to have a facile and critical reading knowledge of both German and English.